

## **DGMC MICU/CCU HOUSESTAFF CURRICULUM**

### **I. Objectives**

It is expected that each resident on the MICU/CCU ("ICU" hereafter) rotation will acquire:

1. The ability to take an accurate and appropriate history and physical in the critically ill patient.
2. The ability to generate a complete differential diagnosis based on a comprehensive problem list.
3. An appreciation for an approach to the ethical, cultural, and socioeconomic dimensions of illness.
4. Attitudes and skills needed for continued self-education throughout a professional career and the ability to critically assess the medical literature.
5. Clinical management skills necessary for recognizing broad clinical syndromes and initiating proper therapy based upon a working knowledge of critical care.
6. The professional attitudes and interpersonal skills and behavior necessary to care for critically ill patients.
7. The skills to define the etiology, pathogenesis, clinical presentation and natural history of diseases relating to critical illness.

### **II. Core Curriculum**

To understand the etiology, pathophysiology, clinical presentation, diagnosis and management of the following (as available and appropriate):

1. Management of conventional mechanical ventilators:
  - a. Mechanical ventilation
  - b. Weaning and extubation
  - c. Indications for long-term ventilation and tracheostomy
  - d. Analgesia, sedation, and neuromuscular blockade
2. Pulmonary
  - a. Acute Respiratory Distress Syndrome (ARDS)
  - b. Acute Pulmonary Edema
  - c. Status Asthmaticus
  - d. COPD exacerbation
  - e. Respiratory failure: hypercapnic and hypoxic

- f. Venous thromboembolism
- g. Massive hemoptysis
- h. Pneumothorax
- i. Upper airway obstruction
- j. Severe community acquired pneumonia
- k. Nosocomial pneumonia

3. Hemodynamics

- a. Differentiation and management of shock states
- b. Use of pressors
- c. Sepsis syndrome
- d. Hypertensive urgencies and emergencies
- e. Invasive monitoring techniques
- f. Interpretation of PA catheter data

4. Renal

- a. Acute renal failure
- b. Indications for dialysis
- c. Electrolyte abnormalities
- d. Acid-base analysis

5. GI

- a. GI bleeding
- b. Acute pancreatitis
- c. Liver failure: chronic and fulminant
- d. Nutrition
- e. Stress gastritis prophylaxis

6. Neurologic

- a. Coma
- b. Brain death
- c. Delirium
- d. Stroke
- e. Status epilepticus

7. Hematology

- a. DIC
- b. HUS/TTP
- c. Blood transfusion criteria and blood conservation
- d. DVT prophylaxis

8. Endocrine

- a. DKA and hyperosmolar nonketotic coma
- b. Adrenal insufficiency in the critically ill
- c. Thyroid storm, myxedema coma

## 9. Toxicology

- a. Overdose states
- b. Alcohol toxicities
- c. Drug withdrawal

## 10. Ethics

- a. Do not resuscitate orders
- b. Withdrawal of care

## 11. Hyperthermia and Hypothermia

## 12. Cardiac

- a. Acute myocardial infarction
- b. Acute coronary syndromes
- c. Use of thrombolytic agents
- d. Recognition and management of arrhythmias
- e. Congestive heart failure
- f. Valvular heart disease
- g. EKG interpretation

## III. Principal Teaching Methods

Progressive levels of responsibility for patient care will occur for interns and residents under the supervision of attending physicians.

Attending rounds, bedside teaching, didactic lectures, case presentations, assigned readings and clinical conferences are all teaching methods to be utilized during this rotation.

Teaching methods include, but are not limited to, the performance and mastery of the following:

- 1. Medical history
- 2. Physical examination
- 3. Diagnostic testing
- 4. Formulation of problem lists/differential diagnosis
- 5. Development of cost effective management plans
- 6. Performance of discharge planning, as appropriate

## IV. Mix of Diseases/Patient Characteristics/Types of Clinical Encounters

### Mix of Diseases

A variety of acute medical problems requiring hospitalization to include cardiac, pulmonary, oncologic, gastrointestinal and renal diseases.

## Patient Characteristics

Patients of both genders with wide ranges of ages from the Northern California area including patients followed in the Ambulatory Clinic, VA clinics, and patients admitted from the Emergency Department.

## Types of Clinical Encounters

Admission evaluations and continuing ICU care.

## V. Educational Content

### A. Skills Objectives

Residents are expected to learn the indication, contraindications, complications and limitations of specific procedures; develop technical proficiency in performing these procedures; and learn to interpret the results or the indications for the following specific procedures, as available and appropriate:

- Arterial Blood Gas
- Arterial Line
- Central Venous
- Thoracentesis
- Lumbar Puncture
- Nasogastric Tube Placement
- Endotracheal Tube Placement
- Paracentesis
- Pulmonary Artery Catheterization placement and interpretation
- Chest Tube Insertion - elective
- Pacemaker (Transthoracic/ Transvenous) - elective
- CXR
- Sputum Gram Stain - elective

### B. Patient Characteristics:

	Intern	PGY-2/PGY-3
Number of Patients Followed Daily (Census)	2-5	4-6
Admissions Per 24 Hours	1-4	3-6

### C. Knowledge Objectives: Please see the Pulmonary and Critical Care Medicine

Core Curriculum under Item II. (above)

## VI. Principal Ancillary Educational Materials

MICU Reference Files (in Binders in the ICU)  
Department of Internal Medicine Resident Library  
DGMH Hospital Library / Resource Center  
Up-to-Date on line  
Medline  
Review of Autopsies  
Individual divisional/departmental syllabus/bibliography for this rotation

## VII. Methods to be Used for Evaluation

Standard house officer evaluation forms to be completed by attending physician.

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